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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/754,563	01/12/2004	Yaw-Ming Tsai	LEE0030-US	8217

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EXAMINER	
NGUYEN, THANH NHAN P	
ART UNIT	PAPER NUMBER
2871	

DATE MAILED: 04/08/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/754,563	TSAI ET AL.	
	Examiner	Art Unit	
	(Nancy) Thanh-Nhan P Nguyen	2871	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) 1-12 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) 1-12 is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on 12 January 2004 is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claim 1 is rejected under 35 U.S.C. 102(b) as being anticipated by Ihara et al U.S. Patent No. 5,789,761.

Referring to claim 1, Ihara et al discloses a liquid crystal display of reduced reflection phenomenon, comprising: a first substrate (100) and a second substrate (120); a switch, disposed on said first substrate, for controlling a brightness of said liquid crystal display; a data line (112) having an extension to selectively form source/drains of said switch; a first electrode (106) electrically connected to said data line; an anti-reflection layer (207) of an anti-reflection material, said anti-reflection layer being disposed on said data line to reduce reflection of said liquid crystal display; a second electrode (121) disposed on said second substrate; and a liquid crystal layer (130) disposed between said second electrode and said switch, [see figs. 1 & 2].

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 2 & 3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ihara et al in view of Huang et al U.S. Patent No. 6,466,281, Matushiita et al U.S. Patent Application Publication No. 2002/0000242, and Nishikawa et al U.S. Patent No. 5,724,107.

Referring to claim 2, Ihara et al lacks disclosure of the anti-reflection material is selected from the group consisting of chromium oxide, silicon nitride and the combination thereof.

Referring to claim 3, Ihara also lacks disclosure of the first electrode is selected from the group consisting of Indium Tin Oxide (ITO), Indium Zinc Oxide (IZO) and the combination thereof.

However, it was very well known that chromium oxide, silicon nitride and the combination thereof were conventional materials to form anti-reflection layer, as evidenced by Huang, [col. 4, lines 16-18]; Matushiita et al, [par. 0134]; Nishikawa et al, [claim 5]; and the group consisting of Indium Tin Oxide (ITO), Indium Zinc Oxide (IZO) and the combination thereof were also conventional materials to form the electrode, as evidenced again by Huang, [col. 4, lines 40-42]; Matushiita et al, [par. 184]; Nishikawa et al, [col. 2, lines 37-38], for the

benefit of being easy to find and cheap to use. Therefore, at the time the invention was made, it would have been obvious to a person of ordinary skill in the art to have the anti-reflection material is selected from the group consisting of chromium oxide, silicon nitride and the combination thereof; and to have the electrode is selected from the group consisting of Indium Tin Oxide (ITO), Indium Zinc Oxide (IZO) and the combination thereof for the benefit of being easy to find and cheap to use.

Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ihara et al in view of Ono et al U.S. Patent Application Publication No. 2005/0041182.

Referring to claim 5, Ihara et al lacks disclosure of a color filter disposed between the switch and said liquid crystal layer, and first electrode being disposed between color filter and the switch.

Ono et al discloses a color filter (FIL) disposed between the switch liquid crystal layer (LC), and first electrode (PX) being disposed between color filter and the switch, [see fig. 9], for the benefit of exhibiting high color purity and high brightness, [see par. 108]. Therefore, at the time the invention was made, it would have been obvious to a person of ordinary skill in the art to have a color filter disposed between the switch and said liquid crystal layer, and first electrode being disposed between color filter and the switch for the benefit of exhibiting high color purity and high brightness.

Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ihara et al in view of Zhong et al U.S. Patent No. 6,707,067.

Referring to claim 6, Ihara et al lacks disclosure of a color filter disposed between said switch and said liquid crystal layer, and said first electrode being disposed between said color filter and said liquid crystal layer.

Zhong et al discloses a color filter (101-103) disposed between the switch and liquid crystal layer, and first electrode (3) being disposed between color filter and liquid crystal layer, [see fig. 6A-6C], where the color filters function as an insulating layer between the pixel electrodes and address lines in the areas of overlap for the benefit of reducing the line-pixel capacitance and being easier to manufacturing the device, [see abstract]. Therefore, at the time the invention was made, it would have been obvious to a person of ordinary skill in the art to have the color filter(s) disposed between the switch and liquid crystal layer, and first electrode being disposed between color filter and liquid crystal layer for the benefit of reducing the line-pixel capacitance and being easier to manufacturing the device.

Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Jang et al U.S. Patent Application Publication No. 2005/0062914 in view of Ihara et al.

Referring to claim 4, Jang et al discloses a liquid crystal display comprising: a first substrate (210) and a second substrate (252); a switch (225), disposed on said first substrate, for controlling a brightness of said liquid crystal

display; a data line (not shown) having an extension to selectively form source/drains of said switch; a first electrode (234) electrically connected to said data line; a second electrode (258) disposed on said second substrate; a liquid crystal layer (260) disposed between said second electrode and said switch; and a color filter (254) disposed between said second substrate and said liquid crystal layer, [see fig. 11].

Jang et al lacks disclosure of an anti-reflection layer of an anti-reflection material being disposed on data line to reduce reflection of liquid crystal display.

Ihara et al discloses an anti-reflection layer (207) of an anti-reflection material being disposed on data line, [see fig. 2], for the benefit of reducing the reflected light in the panel, and therefore improving the quality of a liquid crystal display, [see abstract]. Therefore, at the time the invention was made, it would have been obvious to a person of ordinary skill in the art to have an anti-reflection layer of an anti-reflection material being disposed on data line for the benefit of reducing the reflected light in the panel, and improving the quality of a liquid crystal display.

Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ihara et al in view of Wu et al U.S. Patent No. 5,773,848.

Referring to claim 7, Ihara et al discloses a liquid crystal display of reduced reflection phenomenon, comprising: a first substrate (100) and a second substrate (120); a switch, disposed on said first substrate, for controlling a brightness of said liquid crystal display; a data line (112) having an extension to

selectively form source/drains of said switch; a first electrode (106) electrically connected to said data line; a second electrode (121) disposed on said second substrate; and a liquid crystal layer (130) disposed between said second electrode and said switch, [see figs. 1 & 2].

Ihara et al lacks disclosure of an anti-reflection layer of anti-reflection material, said anti-reflection layer being disposed on said gate line to reduce reflection of said liquid crystal display.

Wu et al discloses an anti-reflection layer (31) of anti-reflection material being disposed on said gate line (29), [see fig. 12, and claim 1], for the benefit of preventing any reflected laser energy from damaging the gate oxide layer (32), and thus avoiding the large gate leakage current, [see col. 5, lines 34-36]. Therefore, at the time the invention was made, it would have been obvious to a person of ordinary skill in the art to have an anti-reflection layer of anti-reflection material being disposed on said gate line for the benefit of preventing any reflected laser energy from damaging the gate oxide layer and thus avoiding the large gate leakage current.

Claim 8 is met the discussion regarding claims 7 and 2 rejection above.

Claim 9 is met the discussion regarding claims 7 and 3 rejection above.

Claim 10 is met the discussion regarding claim 7 and 4 rejection above.

Claim 11 is met the discussion regarding claims 7 and 5 rejection above.

Claim 12 is met the discussion regarding claims 7 and 6 rejection above.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Ihara et al U.S. Patent No. 5,789,761 discloses a liquid crystal display comprising an anti-reflection layer of an anti-reflection material, said anti-reflection layer being disposed on said data line to reduce reflection of said liquid crystal display.

Huang et al U.S. Patent No. 6,466,281, Matushiita et al U.S. Patent Application Publication No. 2002/0000242, and Nishikawa et al U.S. Patent No. 5,724,107 discloses anti-reflection material is selected from the group consisting of chromium oxide, silicon nitride and the combination thereof; and electrode is selected from the group consisting of Indium Tin Oxide (ITO), Indium Zinc Oxide (IZO) and the combination thereof.

Ono et al U.S. Patent Application Publication No. 2005/0041182 discloses a color filter disposed between said switch and said liquid crystal layer, and said first electrode being disposed between said color filter and said switch.

Zhong et al U.S. Patent No. 6,707,067 discloses a color filter disposed between said switch and said liquid crystal layer, and said first electrode being disposed between said color filter and said liquid crystal layer.

Jang et al U.S. Patent Application Publication No. 2005/0062914 discloses a color filter disposed between said second substrate and said liquid crystal layer.

Wu et al U.S. Patent No. 5,773,848 an anti-reflection layer of an anti-reflection material, said anti-reflection layer being disposed on said gate line.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to (Nancy) Thanh-Nhan P Nguyen whose telephone number is 571-272-1673. The examiner can normally be reached on M-F/9-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Kim can be reached on 571-272-2293. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

March 28, 2005
TN

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